

**Report of the
Election Oversight Committee
on the Audit of the
1998 General Election**

March 31, 1999

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The Auditor
State of Hawaii

Election Oversight Committee Members

Marion Higa, Chairperson

State Auditor, State of Hawaii

Ms. Higa was appointed as State Auditor by the 1992 State Legislature for an eight-year term. The Auditor is a constitutional position with broad powers. She leads a staff of 30 whose mission is to assure the accountability of government agencies for their policies, programs, and expenditures of public funds. The office conducts a large variety of audits and studies at the request of the Legislature and at its own initiative. The office contracts with certified public accounting firms for selected financial audits and conducts all audits under generally accepted government auditing standards. The office reports its findings and recommendations to the governor and the Legislature to give policy makers timely, accurate, and objective information for decision making.

Penelope Bonsall

Director, Office of Election Administration
U.S. Federal Election Commission.

The Office of Election Administration is responsible for the full realm of election activities including access to the ballot, voter registration and education, ballot tabulation, computer security, canvassing, recounts, and legislation. As director, Ms. Bonsall promotes effective election practices throughout the country through research, educational programs, and advice to state and local administrators. She managed the multi-year national program to develop standards to improve the accuracy, integrity, and reliability of computer-based voting systems. She guided national implementation of the National Voter Registration Act of 1993 and promulgated regulations and state reporting requirements. Before joining the Federal Election Commission, she was the Supervisor of Elections for Alaska's South-central Region and Director of Planning and Research for the Alaska court system. She has also worked as an election administration consultant in 15 states and as the East Coast manager of an election systems vendor. Ms. Bonsall holds undergraduate and graduate degrees from George Washington University.

Mr. R. Doug Lewis

Director, The Election Center

Since 1994, Mr. Lewis has directed the Election Center, a national nonprofit organization that supports the elections and voter registration professions. The Center is the principal organization in America for training and continuing education of voter registration and election officials. Under his direction, the Center has established the Professional Education Program and the first Code of Ethics for administrators. He manages the Center's research and consulting services on voter registration, regulations, legislation, and elections administration as well as conferences and workshops to improve methods of operation and efficiency of elections. He directs the Center's Voting Systems Program for the National Association of State Election Directors that qualifies voting systems hardware and software, through their voluntary testing by nationally recognized independent testing laboratories, as meeting or exceeding the federal *Voting Systems Standards*. Mr. Lewis has also had extensive experience in the political arena. He has managed state campaigns for Congress, U.S. Senate, governor, and U.S. presidency; served as executive director of a political party in two different states; and was responsible as an election official for two statewide primaries. In addition, he has had more than 15 years of experience as a management consultant.

Executive Summary

Report of the Election Oversight Committee

March 1999

After both the 1998 primary and general elections, candidates raised questions about irregularities in voting and discrepancies in the results. A court-ordered manual vote count revealed that seven precinct scanning machines had malfunctioned. The resulting controversy, combined with the change to a new electronic voting system, led to suspicions of fraud or incompetence. In order to restore voter confidence, the Legislature in Senate Concurrent Resolution No. 31, S.D. 1 ordered the chief election officer to conduct a complete audit of the 1998 general election results. The vendor of the electronic voting system, Electronic Systems & Software (ES&S) agreed to underwrite the cost of the audit. To enhance the credibility of the audit, the Legislature established an Election Oversight Committee composed of a representative of the Federal Election Commission, a representative of the Houston-based Election Center, and the State Auditor. This report from the Election Oversight Committee presents its findings and recommendations on the objectivity and accuracy of the audit and the electronic vote counting process.

Findings

The Committee found that the audit demonstrated that the results of the 1998 general elections were accurate and trustworthy. The audit was conducted professionally and with integrity in accordance with established procedures. These procedures conform with fundamental principles of vote counting in a democracy. The Committee also found that improvements can be made in state election law and to strengthen the Office of Elections.

The audit indicates that discrepancies in the 1998 general election were confined to seven malfunctioning precinct scanners. The overall results were accurate and the audit reveals no change in the outcome of any race. The 1998 general election has now been counted at least three times: in November 1998, in the 1999 audit using high speed infrared central counters and then using high speed visible light central counters. Finally, manual audits were done in selected races and precincts. The results from all the counts were very similar, varying from each other, for the most part, by less than 1 percent. We believe the ES&S has satisfied its obligation to the State to resolve problems raised by its equipment during the 1998 elections.

The audit was conducted with integrity. Prior to the audit, the Office of Elections issued a manual of procedures that would be implemented for the audit. These procedures were adaptations of ones used during the 1998 general election. The manual identified teams that would be responsible for various aspects of the audit, their role and responsibilities, and the procedures they had to follow. We found that the teams operated as instructed by the manual. Open participation, witnessing of the process, and monitoring were maintained throughout by a team of official



observers. The official observers are representatives of political parties and organizations like the League of Women Voters and the media. Many of the official observers are experienced in elections and in computer operations. The Association of Clerks and Election Officers of Hawaii made up of county clerks and registrars from each of the counties also monitored closely all operations. Watchers and other interested individuals were allowed to view the operations from behind a rail.

To improve the State's electoral process, we believe that the Legislature should establish a task force to conduct a comprehensive study of the State's election laws. Many are predicated on a punchcard system that is no longer viable. New provisions are also needed in areas relating to recounts and voting systems. In addition, new rules are needed to implement the law properly. A review of state election laws should include the question of the placement of the chief election officer and the Office of Elections. Currently, no one maintains oversight of or is accountable for the chief election officer. An Election Appointment Panel has only the power to hire and fire the chief election officer. We believe that an elected official should appoint the chief election officer. In most other states, this is the secretary of state who has functions similar to those of Hawaii's lieutenant governor. To maintain the continuity of the Office of Elections, certain technical positions in the office should be made civil service positions.

To further strengthen the Office of Elections, we believe that the State's election officers should be given opportunities for continuing professional education. Workshops, seminars, and contact with fellow election administrators on the mainland would do much to help them become more familiar with technological advances, federal requirements, system requirements, and potential problems posed by various types of voting equipment.

Recommendations

We recommend that the Legislature:

1. Establish a task force to conduct a comprehensive study of the State's election laws. The task force should be composed of the chairs of Senate and House Committees on the Judiciary, the chief election officer, representatives from the Association of Clerks and Election Officers of Hawaii, the Election Advisory Committee, the political parties, and other organizations active in the electoral process like the League of Women Voters.
2. The Legislature should also consider ways to promote professional development of the State's election staff.

Marion M. Higa
State Auditor
State of Hawaii

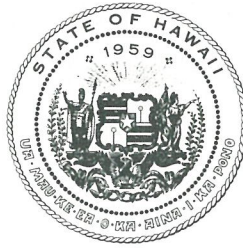
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Report of the Election Oversight Committee

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March 31, 1999

The Honorable Norman Mizuguchi
President of the Senate
State Capitol, Room 003
Honolulu, Hawaii 96813

The Honorable Calvin K.Y. Say
Speaker of the House of Representatives
State Capitol, Room 431
Honolulu, Hawaii 96813

Dear Mr. President and Mr. Speaker:

We are pleased to transmit to you our report on the audit of the November 1998 general election as requested in Senate Concurrent Resolution No. 31, S.D. 1.

We appreciate having been given the opportunity to serve the State in resolving the important question of the integrity of the State's electoral process.

Sincerely,

Marion M. Higa, State Auditor
Chair, Election Oversight Committee

Penelope Bonsall, Director
Office of Election Administration
Federal Election Commission

R. Doug Lewis, Director
The Election Center

Foreword

This extraordinary assignment afforded us the opportunity not only to participate in what we hope will be a rare and one-time experience, but also an opportunity to interact with a number of dedicated citizens and officials. We wish to express our appreciation for the cooperation extended to us by the chief election officer and his staff at the Office of Elections, the Official Observers, the various county election officials, Election Systems and Software representatives, and the many other individuals who gave us their perspectives on the State's electoral process.

We would also like to acknowledge the contribution of Ms. Diana M. Chang, retired Deputy State Auditor, who assisted us in research, analysis, and report writing. We could not have carried out this assignment without her skills and, and more importantly, her total commitment to our responsibilities under Senate Concurrent Resolution No. 31, Senate Draft 1.

The Election Oversight Committee

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Report of the Election Oversight Committee

March 1999

In 1998, the State's Election Office implemented a new electronic voting system for the primary and general elections. After both the primary and general elections, candidates raised concerns about voting irregularities and discrepancies. These charges, combined with the change to a new voting system and high public interest in closely contested races, created considerable controversy and suspicions of fraud or incompetence. A manual vote count ordered by the State Supreme Court then revealed that seven scanning machines used in the precincts had malfunctioned. Newspaper polls showed that many voters had lost confidence in the electoral process.

In order to restore voter confidence, the Legislature, in Senate Concurrent Resolution No. 31, Senate Draft 1, ordered the chief election officer to conduct a complete and duly supervised audit of the 1998 general election results. Since the deadline for contesting the general election had passed, the attorney general opined that the results of the audit would have no bearing on the previously certified election results. Nevertheless, the Legislature hoped that an audit would establish whether the 1998 general election had integrity and trustworthy results. Election Systems and Software (ES&S), the vendor of the new electronic voting system, agreed to underwrite the cost of the audit.

To ensure the objectivity of the audit and to enhance its credibility, the Legislature established an Election Oversight Committee comprised of a representative of the Federal Election Commission (FEC), a representative of the Houston-based Election Center, and the State Auditor. This report presents the Election Oversight Committee's assessment of the audit conducted by the chief election officer.

The objectives of the Election Oversight Committee were to:

1. Observe, review, assess, and report on the objectivity and accuracy of the audit process, and
2. Report findings and recommendations on the objectivity and accuracy of the audit process and the electronic vote counting process.

Background

To give some perspective to our findings and recommendations, the Election Oversight Committee offers some background on relevant Hawaii election law, voting systems and their operation in the 1998 general election, the conduct of the audit by the chief election officer, and the basis for the assessment by the Committee.

State law

Article IV, Section 3, of the State Constitution provides for a chief election officer who shall supervise state elections, maximize voter registration, and maintain data on voters, elections, apportionment and districting. Chapter 11, Hawaii Revised Statutes (HRS), sets forth the State's election process in greater detail. It allows the chief election officer to delegate responsibility for state elections on the Neighbor Islands to the county clerks of the respective counties. Other relevant provisions are contained in Chapter 12, HRS, on Primary Elections, Chapter 15, HRS, on Absentee Voting, and Chapter 16, HRS, on Voting Systems.

The Office of Elections

For many years, the chief election officer was the lieutenant governor. In 1995, the Legislature amended the law to establish a five-member Elections Appointment Panel with the power to appoint a chief election officer for a term of four years. The governor appoints one member and one each from lists submitted by the president of the Senate, the speaker of the House, members of the Senate belonging to a party different from that of the president, and members of a party different from that of the speaker. Panel members serve a term of four years and a maximum of two terms. The panel only has power to select and remove the chief election officer. The Legislature also established an Office of Elections to provide support to the chief election officer. Both the panel and the chief election officer are attached to the Office of the Lieutenant Governor for administrative purposes.

Precinct officials and watchers

The law requires each precinct to have at least three precinct officials of which one is the chairperson. The chairperson shall be of the same political party as the governor. The officials are selected from names submitted by all qualified political parties no later than 60 days prior to the close of filing for any election. Should the names submitted be insufficient, the chief election officer may designate additional precinct officials. Precinct officials must undergo a course of instruction conducted by the chief election officer and be certified by an instructor. Each political party is also entitled to appoint watchers in each precinct and polling place.

Ballots

Part VIII of Chapter 11, HRS, specifies the contents, arrangement of names, ballot formats, and the printing of the ballots. It details how the names are to be arranged and the side of the ballot on which voters are to designate their choice of candidates.

Vote disposition

State law provides for how votes are to be counted, and what to do when there are more or fewer ballots than indicated by the poll books. Precinct officials and the chief election officer are responsible for the proper handling, disposition, and security of records. The results of the election are certified by the chief election officer.

Recount provisions

Section 11-172, HRS, provides that any candidate or qualified political party or any 30 voters may contest an election by filing a complaint in the state Supreme Court. The contest must be filed no later than 4:30 p.m. on the sixth day after a primary or no later than 4:30 p.m. on the 20th day following the general election. The challenger must furnish evidence of fraud or vote overages or underages that could cause a difference in election results.

Voting systems

Chapter 16, HRS, defines two types of voting systems—a paper ballot system and an electronic voting system. It mandates such specifics as requiring officials to record the number of blank or questionable ballots in a paper ballot system and to reject votes cast by a voter when the number of votes exceeds the number of candidates to be elected in an electronic voting system.

Voting systems and operations

To assist election officials with assessing the performance of increasingly complex, voting technology systems, Congress authorized the FEC to issue national standards for computer-based systems. In January 1990, the FEC approved performance and testing procedures for punchcard, marksense (OMR), and direct electronic (DRE) voting systems, a plan for their implementation, and a process for evaluating independent test authorities to test the systems. The standards set parameters for voting systems design and a range for performance. Currently, 27 states have adopted these FEC *Voting System Standards*.¹ Prior to purchasing or leasing system hardware or software, these states require the voting equipment to have been subject to qualification tests by an independent testing authority. The qualification tests selectively examine the software in depth; inspect and evaluate system documentation; test the hardware by simulating storage, operation, transportation, and maintenance; and operate the system to test performance under normal and abnormal circumstances.

The Election Center, located in Houston, Texas, is the secretariat for the National Association of State Election Directors (NASD) for qualifying voting those systems that meet the FEC *Voting System Standards*. It

manages the qualifications testing and approval of voting equipment through nationally recognized independent testing laboratories. Those voting systems that meet the FEC *Voting System Standards* are designated as NASED qualified.

The voting systems hardware and software used in the Hawaii 1998 primary and general elections are NASED qualified. The State leased a system from ES&S that counted *precinct ballots* using a Model 100 visible light (VL) scanner and *absentee ballots* using a Model 550 infrared (IF) central counter. The Model 100s were used in all precincts statewide; the Model 550s were used at each counting center on the Neighbor Islands and at the State Capitol in the case of the City and County of Honolulu. The results from the precinct and absentee ballots were accumulated by ES&S's election reporting system (ERS) to arrive at summary vote results. The Model 100 precinct scanner, the Model 550 IF central counter, and the ERS are all NASED qualified.

Conduct of the audit

For the audit, ES&S furnished two types of high speed central counting machines: (1) Model 550 central counters using infrared (IF) light source for scanning, and (2) Model 550 central counters using visible light (VL) light source for scanning. The Model 100 precinct scanners were not used.

The Model 550 IF central counters use the same type of light source as was used to count *absentee ballots* at the counting centers during the 1998 general elections. They read ballots marked with carbon based instruments, such as pencils. They are NASED qualified.

The Model 550 VL central counters are new machines that use the same light source for scanning ballots as was used by the Model 100 precinct machines during the general election. They read ballots marked by a wider range of marking instruments including pencils, pens, and other markers. ES&S recommended using the Model 550 VL central counters for the audit since they would read the precinct ballots in a manner similar to the Model 100s. However, the newer VL central counters are *not* NASED qualified and were not used during the 1998 general election.

Prior to the start of the audit, the chief election officer decided that the official audit count would be based on results from the Model 550 IF central counters for three reasons: (1) they were used during the November 1998 general elections for counting absentee ballots, (2) SCR 31, S.D. 1 specifically requested that the audit begin with central counters using infrared light, and (3) the Model 550 IF is NASED qualified. However, the chief election officer gave ES&S the option of also running all ballots on the Model 550 VL central counters.

Manual audits

As a further check on the accuracy of the general election results, manual audits were ordered. The chief election officer decided, and the Election Oversight Committee concurred, that manual audits would be performed on:

- Six precincts that had previously been identified as having had very close races—the vote spread between the winning candidate and losing candidate had been 1 percent or less.
- Any contests where the variance was 1 percent or greater between votes cast for candidates in the November 1998 general election and votes tallied by the IF central counters.
- Requests for audits from county clerks or official observers.
- Requests for audits from the Election Oversight Committee.

Exhibit 1 shows the complete list of manual audits that was selected by the Election Oversight Committee, the Office of Elections, and the chairman of the official observers.

Altogether a total of 16 contests and 72 precincts were manually audited. Three random batches of absentee ballots from the City and County of Honolulu were also manually audited. In addition, because concerns had been expressed that the number of blank votes for the governor's race was abnormally low, the Election Oversight Committee requested that a sample of four Maui precincts be audited for blank votes in the governor's race. This was done by running the blank votes through the VL central counter and verifying the results.

The Election Oversight Committee

To monitor the audit, the Legislature sought to fashion a committee with recognized credibility. National expertise was provided by representatives from the FEC and The Election Center. Both Penelope Bonsall of the FEC's Office of Election Administration and R. Doug Lewis of The Election Center are knowledgeable about prevailing election practices and procedures nationwide. Local expertise was furnished by Marion Higa, the State Auditor. To lead its oversight effort, the members of the committee selected Ms. Higa as its chairperson.

Penelope Bonsall has been the Director of the federal Office of Election Administration for almost 20 years. Working with election officials, private vendors, and public interest groups, she managed the national program to develop standards to improve the accuracy, integrity, and reliability of computer-based voting systems. Her office serves as a

Exhibit 1

Manual Audit of 1998 General Elections Results

Contest/Candidates	District/Precincts*	Reason/Selected By
State Rep. District 27 Ahu Isa / Ching	27: 1-7	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference.
Kauai Councilmember Rapozo / Swain	12-06 to 14-10	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference.
State Senate District 23 Nakata / Pickard	45-06; 46: 1-4; 47: 1-3; 48-01	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference.
State Rep. District 44 Auwae / Jones	44: 1-3	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference.
State Rep. District 6 Rath / Tarnas	06: 1-7	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference.
Irradiation Initiative, County of Hawaii Yes Votes / No Votes	01-02; 01-05; 02-03; 03-05; 03-08; 04-07; 04-09; 05-03; 05-08; & 06-05	Selected by Election Oversight Committee and Office of Elections – contest decided by 1% or less difference. The Oversight Committee decided to audit 10 precincts selected by the Official Observers.
Office of Hawaiian Affairs Maui Trustees and Oahu Trustees	27-02 and 44-01	Selected by Official Observers.
State Rep. District 47 Catalani / Djou	47: 1-4	Selected by Election Oversight Committee.
Maui Councilmember Britton / Nishiki	09-07 and 12-01	Selected by Election Oversight Committee.
Governor/Lt. Governor** Cayetano / Hirono Lingle / Koki Peabody / Bartley	07-03; 10-01; 16-02; 26-04; 42-08; & 50-03	Selected by Office of Elections as one of eight additional precincts to be manually audited.
State Senate District 4** Buen / Corboy	07-03	Selected by Office of Elections as one of eight additional precincts to be manually audited.
State Rep. District 10** Evert / Morihara	10-01	Selected by Office of Elections as one of eight additional precincts to be manually audited.
State Rep. District 26** Dawson / Luke	26-04	Selected by Office of Elections as one of eight additional precincts to be manually audited.
State Rep. District 42** Moses / Timson	42-08	Selected by Office of Elections as one of eight additional precincts to be manually audited.
City Council District 2** Aduja / Holmes	50-03	Selected by Office of Elections to be manually audited because of reports that Council District 2 candidates were incorrectly printed next to David Murakami's name (candidate for State Rep). No ballots found to substantiate reports.
City Council District 5** (Francis / Mirikitani) Blank Votes	21-01 and 25-02	Selected by Office of Elections as one of eight additional precincts to be manually audited.
Statewide Contests	3 random batches of Absentee Ballots from the City & County of Honolulu (1 absentee walk and 2 absentee mail).	Selected by Russell Mokulehua, Official Observers chairperson.
Governor/Lt. Governor*** Blank votes	07-06; 09-05; 08-03; & 11-04	Selected by the Election Oversight Committee to verify the blank vote counts.

Source: Office of Elections, March 14, 1999.

*Total of 72 precincts manually audited.

**These contests do not include absentee results for the district/precincts listed.

***The ballots from these precincts were processed through the visible light central counter to verify the blank votes in the Governor/Lt. Governor contest.

central exchange for research and information on all matters relating to election administration. Prior to joining the FEC, she was a state election officer in Alaska.

R. Doug Lewis is the Director of the Election Center based in Houston. The Election Center is the secretariat for NASED in qualifying voting systems that meet federal *Voting System Standards*. The Election Center is the only nonprofit organization with a full-time staff that specializes in voter registration and elections administration. It provides consulting services, continuing professional education, research, and workshops to member governments and election officials. Mr. Lewis also has extensive experience in managing state and national campaigns for Congress, governor, and the U.S. presidency.

Marion Higa, the State Auditor, provides her recognized experience in auditing and oversight, her knowledge of auditing principles, and proper management of government programs.

Criteria used

In carrying out its oversight function, the Committee based its findings and recommendations on prevailing election standards nationwide and those criteria that would satisfy reasonable people that the audit was conducted with integrity and would produce results that are reliable. Both Mr. Lewis and Ms. Bonsall have expert knowledge of the limitations of voting systems and acceptable standards of election administration. Their knowledge of prevailing and acceptable practices guided the committee's findings and recommendations. They emphasize that no perfect election has ever been conducted and that no perfect voting system exists. By their nature, elections are participatory, carrying with them all the hazards and inefficiencies that exist in a democracy. Thousands of paid volunteers are marshaled to work extremely long hours under intense pressure, constant scrutiny, media attention, and time constraints. Mistakes will occur.

The Committee was also guided by what election experts endorse as fundamental principles of vote counting in a democracy. Among the most important principles are the following:²

- *Accuracy* - establishing clear procedures and manuals, adequate staff training, clear audit trails of ballots and checking and rechecking methods.
- *Transparency* - encouraging open participation and witness of the process and the results of the counting process.
- *Professionalism* - having thoroughly trained, nonpartisan, and committed election officials.

- *Security* - ensuring the security of ballots through numbering systems, tamper proof seals, and other methods.
- *Accountability* - establishing clear responsibilities for each stage of the process and procedures for complaints.
- *Equity* - ensuring that the counting is fair and proper.

Steps taken

To ensure that the audit undertaken by the Office of Elections met prevailing standards, the Election Oversight Committee reviewed information on the background of the audit and monitored the audit from the initial briefing by the chief election officer to the conclusion of the manual audits. The Committee took the steps listed in Exhibit 2.

Findings and Recommendations

The Election Oversight Committee found that:

1. The audit demonstrated that the results of the 1998 general elections were accurate and trustworthy.
2. The audit was conducted professionally and with integrity in accordance with established procedures.
3. Some improvements can be made in state election law and to strengthen the operations of the Elections Office.

The general election results were accurate

We concluded that the audit conducted by the chief election officer demonstrated that the general election results were accurate and reliable. The audit was the first of its kind in Hawaii and, as far as we know, the most extensive in the history of the United States. The 1998 general election has now been counted at least three times:

- First, in November 1998.
- Second, in March 1999 on high speed IF central counters.
- Third, in March 1999 on high speed VL central counters.
- Fourth, a number of races and precincts have had one or more manual recounts.

Each of the above counts produced results that either exactly or very closely matched the other counts.

Exhibit 2
Steps Taken By the Election Oversight Committee

1. Reviewed all complaint letters relating to the 1998 elections.
2. Reviewed testimony and other relevant documents and literature.
3. Investigated areas of potential vulnerabilities in audit methods or practices.
4. Listened to concerned citizens, legislators, observer groups, official watchers, elections officials, representatives of ES&S and the news media.
5. Utilized knowledge of recount procedures, and questions that occurred in recount situations in other jurisdictions to assess procedures established for the audit.
6. Questioned elections officials and observers about procedures followed in the 1998 elections and administrative safeguards implemented for the audit.
7. Observed operations and special tests performed on equipment.
8. Performed testing and situation analysis of precinct level, district level, county and statewide levels.
9. Ordered manual counts to examine a variety of conditions including geographical representation and level of races in both general and OHA elections.
10. Examined ballots first hand to determine how voters marked ballots and to assure ourselves that ballots were counted correctly.
11. Selected samples of precincts as surprise audits as recommended by the official observers.
12. Met with county clerks, election officials and official observers to assess election procedures and practices.
13. Used comparison team data compiled by the independent accounting firm of Arthur Anderson to compare and assess the accuracy and reliability of the 1998 general election.
14. Directed election staff and vendors to resolve and verify any questionable data.

Statewide summary reports

ES&S acknowledged that seven of its precinct counters malfunctioned on election day. The audit indicates that discrepancies in the 1998 general election were confined to seven malfunctioning Model 100 precinct scanners. The results of the November general election were accurate and the audit reveals no change in the outcome of any contest.

To determine the accuracy of the general election results, ES&S retained the independent public accounting firm of Arthur Anderson to develop tables comparing the 1998 general election results with results from the IF and VL central counters. In developing the comparison tables, Arthur Anderson performed agreed-upon procedures in accordance with standards established by the American Institute of Certified Public Accountants. The comparison reported statewide and countywide results for each contest by the total votes cast, including absentee ballots and handcounted damaged ballots that could not be processed on the central counters. These tables and other more detailed data can be found at the Office of Elections.

In this report, we illustrate the accuracy of the results in Exhibit 3, which is a copy of the first page of the Statewide Summary Report we received from Arthur Anderson.

Exhibit 3 compares the originally reported results from the November 3, 1998 general election (Section A) with the results from the IF central counters (Section B) and the results from the VL central counters (Section C). The data show the number of votes by which the three counts varied and the percentages by which they varied. Column 1 of Section B shows the March tally from the IF central counters. Column 2 is the tally for manually counted ballots that could not be processed through the central counters because they were damaged or improperly marked. Column 3 shows the totals from columns 1 and 2. Column 4 is the difference between the November 3, 1998 count and the March audit count. Column 5 is the difference between the two above counts expressed as a percentage (column 4 divided by the November vote). Section C presents similar information for counts resulting from the VL central counters. (Manual counts were not included in the VL tallies; instead, damaged or unprocessable ballots were added to the IF manual counts.) Given the nature of marking devices used on election day, ES&S believes that the VL results are more accurate.

Exhibit 3 shows that the percentage variance between the three counts is very small except for the blank votes and overvotes. In the race for U.S. Senator, for example, the November general election results for Senator Inouye were 937 more votes than the IF tally or a variance of 3/10ths of 1 percent; they were only 14 votes less than the VL count or a variance of 0 percent. We found only three instances in the Statewide Summary

Exhibit 3
General/OHA Election
Statewide Summary Report

Results/Votes	Section A						Section B					Section C				
	Nov. 3, 1998						Infrared Light					Visible Light				
							1	2	3	4	5	6	7	8	9	
	Nov. 3, 1998	March 1999	Manual Count	Total Votes	Diff (+/-)	% Variance	March 1999	Manual Count	Total Votes	Diff (+/-)	% Variance	March 1999	Manual Count	Total Votes	Diff (+/-)	% Variance
U.S. Senator																
(D) INOUE, Daniel K.	315252	313675	640	314315	937	0.30%	315266		315266	-14	0.00%	315266		315266	-14	0.00%
(L) MALLAN, Lloyd (Jeff)	11908	11820	40	11860	48	0.40%	11907		11907	1	0.01%	11907		11907	1	0.01%
(R) YOUNG, Crystal	70964	70734	145	70879	85	0.12%	70994		70994	-30	-0.04%	70994		70994	-30	-0.04%
Blank Vote	13862	15094	86	15180	-1318	-9.51%	13969		13969	-107	-0.77%	13969		13969	-107	-0.77%
Over Vote	537	284	4	288	249	46.37%	336		336	201	37.43%	336		336	201	37.43%
U.S. Rep. - Dist. 1																
(D) ABERCROMBIE, Neil	116693	116141	228	116369	324	0.28%	116662		116662	31	0.03%	116662		116662	31	0.03%
(NL) BEDWORTH, Nicholas	3973	3947	10	3957	16	0.40%	3972		3972	1	0.03%	3972		3972	1	0.03%
(R) WARD, Gene	68905	68668	120	68788	117	0.17%	68900		68900	5	0.01%	68900		68900	5	0.01%
Blank Vote	5288	5737	42	5779	-491	-9.29%	5323		5323	-35	-0.66%	5323		5323	-35	-0.66%
Over Vote	130	98	1	99	31	23.85%	109		109	21	16.15%	109		109	21	16.15%
U.S. Rep. - Dist. 2																
(L) CHUN, Noreen Leilehua	13194	13086	34	13120	74	0.56%	13201		13201	-7	-0.05%	13201		13201	-7	-0.05%
(R) DOUGLASS, Carol J.	50423	50267	101	50368	55	0.11%	50447		50447	-24	-0.05%	50447		50447	-24	-0.05%
(D) MINK, Patsy Takemoto	144254	143556	311	143867	387	0.27%	144326		144326	-72	-0.05%	144326		144326	-72	-0.05%
Blank Vote	9302	9941	63	10004	-702	-7.55%	9336		9336	-34	-0.37%	9336		9336	-34	-0.37%
Over Vote	361	166	3	169	192	53.19%	196		196	165	45.71%	196		196	165	45.71%
Gov./Lt. Gov.																
(D) CAYETANO/HIRONO	204206	203163	452	203615	591	0.29%	204163		204163	43	0.02%	204163		204163	43	0.02%
(R) LINGLE/KOKI	198952	198287	352	198639	313	0.16%	198958		198958	-6	0.00%	198958		198958	-6	0.00%
(L) PEABODY/BARTLEY	4398	4387	13	4400	-2	-0.05%	4404		4404	-6	-0.14%	4404		4404	-6	-0.14%
Blank Vote	3538	4580	86	4666	-1128	-31.88%	3674		3674	-136	-3.84%	3674		3674	-136	-3.84%
Over Vote	1426	1187	14	1201	225	15.78%	1270		1270	156	10.94%	1270		1270	156	10.94%
State Senator - Dist. 1																
(R) CARROLL, John S. (Keoni)	7283	7227	31	7258	25	0.34%	7280		7280	3	0.04%	7280		7280	3	0.04%
(D) INOUE, Lorraine Rodero	9337	9237	45	9282	55	0.59%	9331		9331	6	0.06%	9331		9331	6	0.06%
Blank Vote	608	682	9	691	-83	-13.65%	616		616	-8	-1.32%	616		616	-8	-1.32%
Over Vote	7	4	0	4	3	42.86%	6		6	1	14.29%	6		6	1	14.29%
State Senator - Dist. 2																
(D) MATSUURA, David	15907	15866	14	15880	27	0.17%	15909		15909	-2	-0.01%	15909		15909	-2	-0.01%
(R) WALKER, Denise	1893	1888	4	1892	1	0.05%	1894		1894	-1	-0.05%	1894		1894	-1	-0.05%
Blank Vote	720	752	4	756	-36	-5.00%	722		722	-2	-0.28%	722		722	-2	-0.28%
Over Vote	2	3	0	3	-1	-50.00%	2		2	0	0.00%	2		2	0	0.00%
State Senator - Dist. 4																
(D) BUEN, Jan (Yagil)	9732	9683	17	9700	32	0.33%	9754		9754	-22	-0.23%	9754		9754	-22	-0.23%
(R) CORBOY, John M.	4603	4582	10	4592	11	0.24%	4607		4607	-4	-0.09%	4607		4607	-4	-0.09%
Blank Vote	678	721	3	724	-46	-6.78%	655		655	23	3.39%	655		655	23	3.39%
Over Vote	14	15	0	15	-1	-7.14%	14		14	0	0.00%	14		14	0	0.00%
State Senator - Dist. 6																
(D) CHUMBLEY, Avery B	9630	9589	12	9601	29	0.30%	9630		9630	0	0.00%	9630		9630	0	0.00%
(L) DYER, Michael M	1497	1494	1	1495	2	0.13%	1499		1499	-2	-0.13%	1499		1499	-2	-0.13%
(R) LAFOND, Richard	5170	5152	9	5161	9	0.17%	5173		5173	-3	-0.06%	5173		5173	-3	-0.06%
Blank Vote	1588	1630	4	1634	-46	-2.90%	1585		1585	3	0.19%	1585		1585	3	0.19%
Over Vote	11	5	0	5	6	54.55%	6		6	5	45.45%	6		6	5	45.45%
State Senator - Dist. 7																
(D) CHUN, Jonathan J.	14825	14683	68	14751	74	0.50%	14816		14816	9	0.06%	14816		14816	9	0.06%
(R) MEASEL, Robert, Jr.	1963	1946	8	1954	9	0.46%	1961		1961	2	0.10%	1961		1961	2	0.10%
Blank Vote	1344	1422	6	1428	-84	-6.25%	1351		1351	-7	-0.52%	1351		1351	-7	-0.52%
Over Vote	6	3	0	3	3	50.00%	8		8	-2	-33.33%	8		8	-2	-33.33%
State Senator - Dist. 10																
(L) GARDNER, Darrel D.	2813	2800	8	2808	5	0.18%	2814		2814	-1	-0.04%	2814		2814	-1	-0.04%
(D) IHARA, Les, Jr.	9241	9209	11	9220	21	0.23%	9233		9233	8	0.09%	9233		9233	8	0.09%
Blank Vote	1557	1577	11	1588	-31	-1.99%	1562		1562	-5	-0.32%	1562		1562	-5	-0.32%
Over Vote	9	6	0	6	3	33.33%	7		7	2	22.22%	7		7	2	22.22%
State Senator - Dist. 13																
(R) RASMUSSEN, Cindy	5917	5889	11	5900	17	0.29%	5917		5917	0	0.00%	5917		5917	0	0.00%
(D) TAM, Rod	8568	8523	23	8546	22	0.26%	8569		8569	-1	-0.01%	8569		8569	-1	-0.01%
Blank Vote	702	735	8	743	-41	-5.84%	698		698	4	0.57%	698		698	4	0.57%
Over Vote	17	13	0	13	4	23.53%	16		16	1	5.88%	16		16	1	5.88%

Source: Office of Elections, March 13, 1999.

Report where a candidate's vote count under the IF central counters differed by more than 1 percent from that in the general election. Our use of the 1 percent or greater variance was for audit targeting purposes, so we could verify the accuracy of the November 1998 general election and the March 1999 audit. In "official" recount elections, variances of anything more than 3 or 4 votes per precinct would need to be reconciled to the lowest possible number. We opted for the 1 percent variance in order to speed the process along and to assure the public that any outcome which could have changed the winners of any contest would be thoroughly examined. In two of the instances, the variance dropped below 1 percent when the results were compared with those from the VL central counters. In the third instance, the variance was due to the earlier November 1998 miscount by a malfunctioning precinct scanner.

Percentage variances for blank votes were higher. Blank votes occur when a voter does not select a candidate in a race or mismarks a ballot. ES&S explained that the blank vote count was higher on the IF central counters because they do not pick up marginal marks as well as the precinct VL scanners used during the 1998 elections. Blank vote and other results from the VL central counters were much closer to the November 3, 1998 results because they use the same light source to scan ballots.

The percentage variance for the overvotes, or votes disqualified because the voter voted for more candidates than are to be elected, was also high. This was mainly because the total number of overvotes in each race was small. Since the base is small, a small variance in numbers results in a large percentage variance. For example, in the race for U.S. Senator, a difference of 249 fewer overvotes in the audit from the number of overvotes in the November 1998 general election resulted in a variance of 46.37 percent. (The higher number of overvotes in the November general election was most likely due to the seven malfunctioning machines that counted lens occlusions as overvotes.) In all cases, the variance in the number of blank votes and overvotes had no impact on the outcome of any race.

Manual audits. Exhibit 4 compares the results of the manual audits with the general election results. The data reinforce our conclusion about the accuracy of the general election results. Where variances occurred, they were very small. In four of the manual audits, the results matched the general election results exactly. Six of the manual audits differed from the general election results by one vote. The remaining six manual audits varied from the general elections by three to ten votes.

Exhibit 4

Comparison of General Election Results with Manual Audit Results

Contests	District/Precincts	Results 11/3/98	Manual Audit 3/99	Difference
AHU ISA *	State Representative	3703	3702	-1
CHING	District 27	3684	3683	-1
RAPOZO *	Kauai Council	8832	8842	10
SWAIN	12:06-14:10	9083	9080	-3
NAKATA *	State Senate	7309	7304	-5
PICKARD	District 23	7263	7262	-1
AUWAE *	State Representative	2680 **	2670	-10
JONES	District 44	2640 **	2634	-6
RATH *	State Representative	4337	4336	-1
TARNAS	District 6	4255	4254	-1
YES *	Irradiation	6529	6533	4
NO	Sampled 10 Precincts	7013	7018	5
CAMPOS	OHA-Maui	208	209	1
HAO	Absentees + Sampled 2 Precincts	293	293	0
KAHO'OHANAHANA		241	240	-1
HEE	OHA-Oahu	450	450	0
KAMALII	Absentees + 2 Precincts	355	354	-1
CATALANI	State Representative	4399	4393	-6
DJOU	District 47	4209	4202	-7
BRITTON	Maui Council	311	311	0
NISHIKI	Absentee + 2 Precincts	314	315	1
CAYETANO	Governor	2249	2249	0
LINGLE	6 Precincts	3688	3686	-2
BUEN	State Senate	476	476	0
CORBOY	District 4-1 Precinct	471	471	0
EVERT	State Representative	239	239	0
MORIHARA	District 10-1 Precinct	537	537	0
DAWSON	State Representative	641	641	0
LUKE	District 26-1 Precinct	609	610	1
MOSES	State Representative	514	514	0
TIMSON	District 42-1 Precinct	248	248	0
ADUJA	City Council	248	248	0
HOLMES	50-03	371	371	0

Source: Office of Elections, March 1999

*Contests decided by 1% or less.

**Total adjusted for overvotes due to machine malfunction in Precinct 44-01.

The first six contests in Exhibit 4 are those that had been decided by 1 percent or less. These had been selected for manual audits by both the Election Oversight Committee and the chief election officer. The results showed that the manual counts varied from the general election results by fewer than 10 votes. In all instances, the outcomes remained the same.

The Election Oversight Committee also requested a manual audit of blank votes in the governor's race because of concerns that the number of blank votes was unusually low. We selected a sample of four precincts on Maui. In three of the precincts, we found no difference in the number of blank votes between the general election results and manual audit results. The remaining precinct had a one vote difference.

We then physically examined all the blank ballots for the four precincts. We verified that all the blank votes were legitimately blank. Voters had failed to vote for any candidate, mismarked their ballots, or made marginal marks. Exhibit 5 is a test ballot that illustrates some of the markings we saw. Only item 1 is correctly marked. It would have been counted as a vote. Items 6, 7, and 8 are marginal marks that may have been counted as votes. The remaining marks would not have been counted as votes. For example, one voter circled the oval instead of filling it in; another missed the oval; others put check marks or lines in the oval. Still others just left parts of the ballot blank.

Despite charges that the new voting system was difficult for some voters, the audit showed that 99.8 percent of the voters had voted correctly. Only 0.2 percent of the total ballots counted were damaged or mismarked.

As a final note, the accuracy and security of the 1998 general election is further verified by comparing the total number of ballots cast in the general election with those processed during the audit. The number of ballots cast on election night was 412,520. The number tallied in March was 412,521, a difference of only one ballot.

***The audit was
conducted with
professionalism and
integrity***

The audit was conducted at the Hospitality Room at Aloha Stadium. Prior to the audit, the Office of Elections had issued a manual of procedures in *Review of the 1998 General Election Results*. The procedures were adaptations of ones the Office of Elections implemented during the 1998 elections. We found they embodied the necessary principles of transparency, professionalism, security, accountability, and equity.

In the *Review*, the Office of Elections presented an overview of the audit; the schedule of events; guidelines for the general public, the media, the Election Oversight Committee, and official observers; and instructions for the operations of various teams. Teams for the audit included the official observers team, ballot storage team, ballot preparation team, computer

Exhibit 5

Examples of Ballot Markings

OFFICIAL BALLOT
GENERAL ELECTION
TUESDAY, NOVEMBER 3, 1998
GENERAL ELECTION AND SPECIAL ELECTION(S) VOTING INSTRUCTIONS

1. Vote on all ballots.
 NOTE: If you are qualified and registered to vote in the Office of Hawaiian Affairs (OHA) Special Election and do not receive an OHA ballot, please remind the precinct official to issue you an OHA ballot.
 2. Vote for not more than the number of candidates/choices allowed in each contest.
 NOTE: If you vote for more candidates/choices than allowed in a contest, your vote(s) for that contest will not be counted.
 3. Vote by completely blackening the oval (●) to the right of your choice.
 4. Direct any questions you may have to a precinct official.

1998 OFFICIAL GENERAL ELECTION BALLOT

STATE OF HAWAII	CITY & COUNTY OF HONOLULU	NOVEMBER 3, 1998
AMENDMENTS TO THE STATE CONSTITUTION PROPOSED BY THE NINETEENTH LEGISLATURE <small>The full text of the constitutional amendments covered by this ballot is available for inspection at your polling place. Ask an Election Official for it, if you wish to see it.</small> 1 Shall a tax review commission be appointed every ten years, instead of every five years, starting in the year 2005? YES <input checked="" type="radio"/> NO <input type="radio"/> 2 Shall the Constitution of the State of Hawaii be amended to specify that the legislature shall have the power to reserve marriage to opposite-sex couples? YES <input checked="" type="radio"/> NO <input type="radio"/>	AMENDMENTS TO THE CHARTER OF THE CITY AND COUNTY OF HONOLULU PROPOSED BY THE CHARTER COMMISSION <small>The full text of the charter amendments covered by this ballot is available for inspection at your polling place. Ask an Election Official for it, if you wish to see it.</small> 1 Combine the Department of Planning and Department of Planning and Permitting into one department. YES <input checked="" type="radio"/> NO <input type="radio"/> 2 Combine the Department of the Budget and the Department of Budget and Fiscal Services into one department. YES <input checked="" type="radio"/> NO <input type="radio"/> 3 Combine the Office of Information and Complaint, the Municipal Reference and Records Center, Drivers Licensing and Motor Vehicle Registration functions into a new Department of Customer Services. YES <input checked="" type="radio"/> NO <input type="radio"/> 4 Allow exemption of deputy directors of departments from civil service provisions. YES <input type="radio"/> NO <input type="radio"/> 5 Allow the Corporation Counsel to revise the Charter for purposes of reorganization. YES <input checked="" type="radio"/> NO <input type="radio"/>	6 Provide for a five-year term for police chief with annual evaluations by the Police Commission. YES <input checked="" type="radio"/> NO <input type="radio"/> 7 Extend date on which City Council must pass executive and legislative budget ordinances from May 31 to June 15. YES <input checked="" type="radio"/> NO <input type="radio"/> 8 Stagger terms of city councilmembers. YES <input checked="" type="radio"/> NO <input type="radio"/>
PROPOSED CONSTITUTIONAL CONVENTION <small>The full text of the constitutional convention question covered by this ballot is available for inspection at your polling place. Ask an Election Official for it, if you wish to see it.</small> Shall there be a convention to propose a revision of or amendments to the Constitution? YES <input checked="" type="radio"/> NO <input type="radio"/>		

VOTE BOTH SIDES (OVER)

operations team, and manual audit team. The *Review* instructed each team on its purpose and specific procedures to be followed. For example, it outlined the purpose of the official observers team, its composition and role, supervision over the team, and the various tests that it would conduct to verify the integrity, logic, and accuracy of the ballot counting program. During the audit, we observed as the various teams carried out seal certifications, opened the ballot boxes, prepared the ballots for scanning, processed the ballots, tallied and prepared comparison tables, and performed manual audits. We found that these tasks were done in accordance with the procedures established for the audit.

Transparency. The openness of elections is particularly important to ensure their integrity and to build public confidence in the process. We found that numerous administrative safeguards were in place to ensure the openness of the audit. Numerous outside participants and witnesses were on site.

Ms. Bonsall and Mr. Lewis were particularly impressed by the role played by Hawaii's Election Advisory Committee (EAC) who form the core of the official observers. The EAC serves as the "eyes and ears" of the general public to ensure the security and integrity of the ballot processing and tabulation system. It is composed of representatives of political parties, and organizations such as the League of Women Voters, the State Bar Association, and the Information Systems Audit and Control Association (ISACA). Traditionally, the chairperson of the EAC is also the chairperson of the official observers.

Section 16-45, HRS, authorizes the chief election officer and the county clerks to designate official observers to be present at the counting centers. They are to include at least one observer designated by each political party and one from the news media. They are responsible for conducting logic and accuracy tests on the ballot counting program, conducting manual audits, and monitoring the activities of the counting center team to ensure that prescribed rules and procedures are followed precisely. During the audit, representatives of the League, the Hawaii Newspaper Agency, State Bar Association, Democratic Party, Republican Party, and ISACA served as official observers. The list of official observers is shown in Exhibit 6.

Observers are private citizens who have no direct connection with state government. Many of them have had experience in past elections. They know what to watch for and what tests are needed. Some official observers are very knowledgeable about computer operations. For example, the current EAC chairperson, Mr. Russell Mokulehua, is a private consultant who specializes in computer auditing.

Exhibit 6

List of Official Observers

The Official Observer team is composed of members of the Election Advisory Council (EAC) including representatives from the various political parties and the news media. Other interested persons or groups may be included pursuant to HRS §16-45(3) "Additional official observers as space and facilities permit designated by the chief election officer in state elections and the clerk in county elections."

Below is a list of observers who offered their time to participate in the audit.

City and County of Honolulu

Russell Mokulehua	Information Systems Audit and Control Association (ISACA)
Dave Harris	Republican Party of Hawaii
Alice Kealoha	Republican Party of Hawaii
Forence Loebel	Republican Party of Hawaii
Robert Chung	Republican Party of Hawaii
Bixby Ho	Democratic Party of Hawaii
Luree Hays	League of Women Voters
Dennis Kam	Hawaii Newspaper Agency
Al Katagihara	Office of the Legislative Auditor
Hugh Jones	Hawaii State Bar Association
Aulani Apoliona	Office of Hawaiian Affairs

County of Maui

Selberio Menor	Concerned Citizen
Harriet Santos	Concerned Citizen

County of Kauai

Melinda Nesti	Kauai Republican Party Chair
William Scamahorn	Nonpartisan
Edward Coll	Hawaii Green Party

County of Hawaii

Marcella DeWeese	HGEA
Robert Duerr, Jr.	Parents Against Irradiation

Source: Office of Elections, March 1999.

The Election Oversight Committee found the official observers to be diligent and dedicated. They clearly understood their responsibilities. Prior to the audit, they conducted “logic and accuracy tests” using test ballots to see if the machines were counting accurately. They observed and monitored all operations to determine whether they met with prescribed procedures.

Ms. Bonsall and Mr. Lewis remarked on the extent of authority exercised by the official observers. They say that in no other jurisdiction had they seen observers given so much latitude. Observers could stop the central counters and run random tests at any time to make sure the machines were counting accurately and that software was not breached. They also asked periodically for such safeguards as listings of directories in the computer program to verify the integrity of the software systems. Throughout the audit, they were able to discuss problems or complaints immediately with the chief election officer or his staff.

For example, the chair of the EAC noted that the audit had gone very smoothly, but he also voiced concern that the system documentation logs generated by the central counters had been discarded. These logs are printouts from the central counters that document such events as when the machines started and stopped, when the hoppers were empty, and when there were feed jams. They are important as an audit trail for election results. They verify which batches of ballots were read and whether there has been unwarranted access to the system. The federal *Voting System Standards* require an audit trail of system activity related to vote tallying from the time vote counting begins until it is completed. Federal law requires election officials to preserve all records and papers relating to the voting for 22 months.³ While this lapse was not important for the purposes of this audit, it would be significant in any future election.

In addition to the official observers, the Association of Clerks and Election Officers of Hawaii watched every step of the process. The association is made up of county clerks and election officials from the Neighbor Islands and Honolulu. They watched as the ballot boxes were unsealed, oversaw the ballots being prepared for processing on the machines, watched the IF and VL central counters to verify that ballots were fed and processed correctly, watched the processed ballot containers being transferred to the storage area, and monitored the manual audits.

Finally, watchers who are members of the general public were allowed into the counting center to view the operations from behind a rail. Many came. Some school teachers saw the audit as an opportunity to educate their students about the election process and brought their classes in to view the operation.

Professionalism, security, accountability, and equity. The Election Oversight Committee was reassured to observe the professional behavior of state and county election staff. They each knew their respective responsibilities for the audit and carried them out effectively. We observed that they responded equally respectfully to inquiries from individuals of different parties and interests. Elections office staff also ensured the security of the audit by posting security guards at the entrance to the Stadium Hospitality Room. Each participant or visitor was asked to sign in and was required to wear a badge. Also, video cameras were installed to provide 24-hour surveillance of the counting center and to ensure that ballots were not tampered with.

***Some suggestions to
improve future
elections***

The audit demonstrated that the ES&S machines used in the general election resulted in accurate and reliable vote counts. It also affirms the competency and integrity of Hawaii's election officials and citizen participants. Certain changes are needed, nevertheless, to keep up with changing times and technologies: (1) the State's election statutes should be amended to remove obsolete or deficient provisions; new rules are also needed; (2) the Office of Elections needs to be strengthened to reduce the likelihood of future problems.

The Legislature should consider establishing a task force to study the changes needed. Such a task force was established in Maryland. The task force could be composed of members of the Legislature such as the chairs of the Senate and House Committees on the Judiciary, the chief election officer, representatives from the Association of Clerks and Election Officers of Hawaii, the Elections Advisory Committee, the political parties, and other organizations active in the electoral process such as the League of Women Voters.

Amend state law

Many state statutes and rules are obsolete or overly specific. They are geared to a punchcard system. They sink to a level of detail that constrains attempts to use new election technology. For example, the provision relating to ballots specifying that votes are to be marked on the right side of a candidate's name should be removed. ES&S had to design special ballots and programs for Hawaii because in most other states votes are marked to the left of candidates' names.

The provisions for recounts are inadequate. They place candidates in an untenable position where they have to produce evidence of fraud or differences in votes cast that would cause a difference in election results when they have no access to the ballots that would produce the evidence. In many jurisdictions, contests are automatically recounted when the difference between winning and losing candidates is 1 percent or less.

In addition to amending the statutes, new rules are needed. In response to a request from the Senate Committee on Judiciary, the Department of the Attorney General noted that administrative rules are needed to properly implement Section 11-97, HRS, that would prescribe when election records are available for inspection. The rules also need to be updated to reflect advances in election technology. Current rules are predicated on using a punchcard system and may be inapplicable or restrictive. The Legislature could request that the task force conduct a comprehensive study of these and other questionable state laws that should be amended.

Strengthen the Office of Elections

We believe that the State would benefit if the Office of Elections were reorganized, given greater support, and its staff were given opportunities for professional development.

A study of state election laws by the task force should include an examination of the placement of the Office of Elections. Currently the office is only administratively attached to the Office of the Lieutenant Governor. It has lost many of the former advantages it had when it was part of the lieutenant governor's office. These advantages included periodic research and analytic support, greater latitude in budget execution, and higher credibility. In most other states, the elections office is under the direction of the secretary of state, an elected position with functions similar to those of Hawaii's lieutenant governor. In Utah and Alaska, elections are under the lieutenant governor.

We believe that Hawaii's Office of Elections would benefit if it were an integral part of the Office of the Lieutenant Governor and subject to the supervision of an elected official. The chief election officer could be appointed by the lieutenant governor as a deputy in charge of elections. Currently the chief election officer is appointed by an Elections Appointment Panel that has no authority except to hire and fire the chief election officer. The chief election officer is given no continuing oversight by someone who can be held accountable. The public cannot hold the appointment panel accountable for its actions whereas the public could hold the lieutenant governor responsible for the integrity of elections.

The office would also benefit if it were given a certain number of civil service positions for technical and clerical staff. This would maintain continuity in elections. Ms. Bonsall and Mr. Lewis warn that chaos has resulted in certain elections offices when newly elected officials terminated all of the elections staff.

We note that the budget for the Office of Elections has decreased a total of 21.4 percent since the 1993-1995 fiscal biennium. To accommodate this decrease, the office had to cut its own staff as well as its hiring of precinct officials during elections. Running an election is a relatively

invisible function until something goes wrong. But the declining level of support is jeopardizing the integrity of this basic democratic function. It should be noted that the number of precincts has increased but the number of precinct officials has had to be cut. The number of precincts increased from 325 in 1994 to 328 in 1996 to 334 in 1998. At the same time, the number of precinct officials had to be cut from 3,578 in 1994 to 3,260 in 1996 to 2,922 in 1998. In 1998 the office also delayed hiring 5 warehouse seasonal staff and released 6 clerical/warehouse seasonal staff earlier than scheduled. This means that the precincts were covered more thinly and had to operate with less supervision.

Also, while budgets were being cut, the number of citizens and voters to be served was growing. The implementation of the National Voter Registration Act (NVRA) began in January of 1995 which fostered significant increases in the voter registration roles. The NVRA also added significant administrative costs to comply with the act. Combined with a presidential election in 1996 (the most expensive of election years in the four-year budget cycle of elections), the impact of budget reductions had a significant adverse impact on the Office of Election's ability to administer its functions. Elections may be one of the few places in government that ought to be exempted from budgetary reductions unless it can be demonstrated that there are equivalent reductions in citizens to be served.

Smaller budgets made the move away from the old punchcard system unavoidable. The former system was labor intensive and time consuming. The Office of Elections could no longer afford staff to run it. In addition, the office could no longer rely on support from the State's Information and Communication Services Division (ICSD) which had suffered budget cuts of its own. In past elections, ICSD had provided 60 staff during elections to prepare the punchcard voting system, proof ballots, and test machines. ICSD also supplied the Office of Elections with four full-time staff from April until the end of elections. Without technical support from ICSD, the Office of Elections had no alternative but to look for another system, one that it could afford.

We believe that the Office of Elections made a reasonable choice in leasing equipment from ES&S. The cost for leasing equipment, \$1.58 million, was less than the estimated cost for printing ballots for the punchcard system alone, \$1.88 million. ES&S had the only NASED qualified equipment that could count both precinct and absentee ballots. The Office of Elections estimated that it saved \$1.27 million using ES&S equipment. We discussed the use of scanning equipment with the county clerks. They unanimously supported its use and say that they would like to continue with this or a similar system.

Finally, we believe that state election staff are handicapped by their lack of access to continuing professional education and contact with other election administrators on the mainland. The State would be well served by encouraging their professional development through continuing professional education. If funds were available for elections staff to attend workshops and seminars, they could become more familiar with technological advances, system requirements, potential problems posed by the various types of voting equipment, and perhaps they could have anticipated better some of the problems that occurred with the leased equipment. Staff could also be encouraged to obtain and maintain national professional certification as election professionals.

Most of the State's election officials have had experience only with the former punchcard system. They had become well versed with its operation. Implementing a new system created a new and different set of problems. According to Ms. Bonsall and Mr. Lewis, glitches are inevitable anytime a change is made to a new voting system. There is a learning curve. Experience with the system is the most important element in running a smooth election.

Summary

The members of the Election Oversight Committee considered it a privilege to have had the opportunity to monitor the audit of the 1998 general elections. We concluded that the voting equipment used in the 1998 elections is accurate and counted contests correctly. ES&S has fully met its stated obligations to work with the State to resolve problems created by its equipment.

We found no credible evidence of any fraud. We emphasize the democracy is too important to all of us to allow unfounded or unproved allegations to undermine our confidence in elections.

There are no easy solutions to real problems in administering elections—the process is too complex to tinker with. Any change to a new voting system is likely to result in mistakes and some initial confusion. Nevertheless, the audit found that 99.8 percent of Hawaii's voters had marked their ballots correctly. While it takes staff time to learn what the significant procedures are with a new system, we found that state and local level election staff are competent people who are very knowledgeable about the process. They are committed to making sure that elections accurately reflect the will of the voting public.

Recommendations

The Elections Oversight Committee recommends that:

1. The Legislature establish a task force composed of the chairs of the Senate and House Committees on the Judiciary, the chief election officer, and representatives of the Association of Clerks and Election Officers of Hawaii, the Election Advisory Committee, the political parties, and other organizations active in the electoral process such as the League of Women Voters. The task force should conduct a comprehensive study of the State's election laws including the placement of the chief election officer and the Office of Elections.
2. The Legislature should consider ways to encourage the professional development of Office of Elections' staff.

Notes

1. Federal Election Commission, *Voting System Standards*, National Clearinghouse on Election Administration, 1990.
2. Dominique-Christine Tremblay and Ron Gould, "Vote Counting," in ACE Project, International Foundation for Election Systems, October 1998.
3. See U.S. Code, Sections 1974 through 1974e.